

KOSTOVSKIY, A.N. (L'vov)

Generalized formulas for transformations of functions in
Lobachevski-Graeffe's method for the numerical determination of
zeros in entire and holomorphic functions. Zhur. vych. mat. i
mat. fiz. 1 no. 2 - Apr '61. (MIRA 14:8)
(Transformations (Mathematics)) (Functions)

KOSTOVSKIY, A.N. (L'vov)

Lehmer's method for the numerical solution of algebraic equations
with complex coefficients. Zhur.vych.mat.i mat.fiz. 1 no.4:719-
724, JI-Ag '61. (MIRA 14:8)
(Equations—Numerical solutions)

S/O20/62/147/002/002/021
B112/B186

AUTHOR: Kostovskiy, A. N.

TITLE: Determination of rigorous inequalities between the absolute values of roots in the transformation of algebraic equations by Lobachevskiy-Gräffe's method

PERIODICAL: Akademiya nauk SSSR. Doklady, y. 147, no. 2, 1962, 287-289

TEXT: The problem is to determine in what cases the inequality $|z_m| < |z_{m+1}|$ is valid for two subsequent roots z_m, z_{m+1} of a complex polynomial $f(z) = \sum_{i=0}^n a_i z^i, a_0 \neq 0$, (1) the roots of which are ordered with respect to their absolute values: $0 < |z_1| \leq |z_2| \leq \dots \leq |z_n|$. (2) The result is the following criterion: $|z_m| < |z_{m+1}|$ then, and only then, if for any two numbers κ and ν ($1 \leq \kappa \leq m, 1 \leq \nu \leq n-m$) $\lim_{k \rightarrow \infty} (|a_{m-\kappa}^{(k)}|^{\nu} |a_{m+\nu}^{(k)}|^{\kappa} / |a_m^{(k)}|^{\kappa+\nu}) = 0$, (4) where the numbers $a_m^{(k)}$ are the coefficients of the associated polynomial

Card 1/2

Determination of rigorous...

S/020/62/147/002/002/021
B112/B186

$f_k(z) = \prod_{j=0}^{k-1} f(\sqrt[k]{z} e^{j2\pi(-1/k)}),$ (3) the roots of which are the k-th powers of the roots z_m .

ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. Ivana Franko
(L'vov State University imeni Ivan Franko)

PRESENTED: May 28, 1962, by S. L. Sobolev, Academician

SUBMITTED: October 3, 1961

Card 2/2

KOSTOVSKIY, A.N.

Determination of rigorous inequalities between the absolute values of roots in the transformation of algebraic equations by Lobachevskii-Gräffe's method. Dokl. AN SSSR 147 no.2:287-289 N '62. (MIRA 15:11)

1. L'vovskiy gosudarstvennyy universitet im. Ivana Franko. Predstavleno akademikom S.L. Sobolevym. (Inequalities) (Polynomials)

VITEN'KO, I.V.; KOSTOVSKIY, A.N.

Determining the principal indices of Laurent series. Dokl.
AN SSSR 155 no. 4:732-734 Ap '64. (MIRA 17:5)

1. L'ovskiy gosudarstvennyy universitet im. Ivana Franko.
Predstavleno akademikom A.A.Dorodnitsynym.

VITEN'KO, I.V.; KOSTOVSKIY, A.N.

Division and factorization of Laurent series. Dokl. AN SSSR 162 no.1:
15-18 My '65. (MIRA 18:5)

1. L'vovskiy gosudarstvennyy universitet im. Iv.Franko. Submitted
November 20, 1964.

KOSTOVSKIY, A.N. [Kostovs'kyi, O.M.]

Use of the Lobachevskii-Greffe product in methods for the numerical determination of zeroes in functions. Visnyk L'viv. un. Ser. mekh.-mat. no.1:16-24 '65.

(MIRA 18:12)

KOSTOVSKIY, L.

Banking system of Poland. Den. i kred. 17 no.12:39-41 D '59.
(MIRA 12:12)

(Poland--Banks and banking)

KOSTOVSKIY, M.

Changes in the payment and credit system of the Polish People's Republic. Den. i kred. 16 no.8:51-59 Ag '58. (MIRA 11:9)

1. Sovetnik prezidenta Pol'skogo natsional'nogo banka.
(Poland--Banks and banking)

KOSTOVSKIY, O.M. [Kostovs'kyi, O.M.]

Solving geometrical construction problems by only a compass with
a limited span. Nauk zap. L'viv. un. 44 no.8:71-81 '57. (MIRA 11:6)
(Geometry)

ACCESSION NR: AT4019732

S/0000/63/000/000/0006/0017

AUTHOR: Kostovs'ky'y, O. M. (Kostovsky'y, O. M.)

TITLE: The accuracy of roots, which are obtained by the Lobachevskiy-Greffe method of numerical solution of algebraic equations

SOURCE: AN UkrRSR. Insty*tut kibernety*sy*. Obchy*slyuval'na matematy*ka i tekhnika (Computer mathematics and engineering). Kiev, Fy*d-vo AN UkrRSR, 1963, 6-17

TOPIC TAGS: algebraic equation root, numerical solution, Lobachevskiy-Greffe method, numerical solution error, solution method error, arithmetical error

ABSTRACT: The author investigates errors in the Lobachevskiy-Greffe method of calculating the roots of algebraic equations. In general, errors in a numerical solution of a problem arise from errors in the method of solution and in errors of calculation (arithmetical errors). Arithmetic errors, however, are not considered, since in order to simplify the expression, one must assume that the calculation is performed with exact numbers, even though, obviously, this is not completely necessary. Orig. art. has 29 equations, 2 tables.

Card 1/2

ACCESSION NR: AT4019732

ASSOCIATION: none

SUBMITTED: 19Sep63

DATE ACQ: 06Jan64

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 000

Card 2/2

39387-65 EMT(d)/T IJP(c)

ACCESSION NR: AR5004811

S/0044/64/000/011/B120/B120

SOURCE: Ref. zh. Matematika, Abs. 11B518

7
B

AUTHORS: Viten'ko, I. V.; Kostovs'kyy, O. M.

TITLE: Generalized transformation formulas in the methods of Lobachevskiy-Greffe and Lemer

CITED SOURCE: Sb. Teor. i prykl. matem. Vyp. 2. L'viv, L'vivs'k. un-t, 1963, 31-35.

TOPIC TAGS: Laurent series, transformation formula

TRANSLATION: The authors derive formulas for the calculation of the coefficients of Laurent-series expansion of the functions

$$f_k(z) = \prod_{l=0}^{k-1} f(\omega^l z^k) = \sum_{l=-\infty}^{\infty} a_l^{(k)} z^l$$

16

Card

1/3

1937-65

ACCESSION NR: AR5004811

0

$$Q_k(z) = \frac{1}{k} \sum_{m=0}^{k-1} \prod_{j=0}^{k-1} f(\omega_m^{(k)} z^{\frac{1}{k}}) R_0(\omega_m^{(k)} z^{\frac{1}{k}}) =$$

$$= \sum_{l=-\infty}^{\infty} b_l^{(k)} z^l,$$

where

$$R_0(z) = \prod_{j=0}^{k-1} f(\omega_j^{(k)} z^{\frac{1}{k}}) = e^{\frac{2\pi i j - 1}{k}} \quad (j=0, 1, \dots, k-1),$$

in terms of the coefficients of a specified Laurent series

$$f(z) = \sum_{l=-\infty}^{\infty} a_l z^l$$

and the auxiliary series

Card

2/3

I 39387-65

ACCESSION NR: AR5004811

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$$u(z) = \sum_{l=-\infty}^{\infty} b_l z^l.$$

The auxiliary series $v(z)$ is chosen such that $f(z)$ and $v(z)$ have a common convergence ring. The particular case when $v(z) = z^l$ (l -- arbitrary integer) and

$$f(z) = \sum_{l=0}^{\infty} a_l z^l, a_0 \neq 0.$$

is considered separately. N. Lyashchenko.

SUB CODE: MA

ENCL: 00

Card

3/3 *mb*

KOSTOWSKI, A.

POJNCZYK, A.
SURNAME, Given Name

Country: Poland

Academic Degrees: [not given]
Second Clinic of Internal Diseases, School of Medicine (II Klinika Chorob
Affiliation: Wewnętrznych Akademii Medycyny) Krakow, Krakow; Director: Prof. T. TROJAN,
dr of medical sciences

Source: Warsaw, Przegląd Lekarski, No 5, 1961, p. 219.

Date: "The Phenomenon of (Complete?) Serum Cryoprecipitation *in vitro* and *in vivo* as a Symptom of Auto-aggression in an Acquired Intoxic Syndrome with Symptoms of Raynaud's Disease."

Co-author:
STYPUKOWSKI, C., Second Clinic of Internal Diseases, School of Medicine, Krakow;
Director: Prof. T. TROJAN, dr of medical sciences

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P/517/62/000/058/C02/002
E032/E114

AUTHOR: Kostowski, Edward

TITLE: Uncontrolled power rise in a heterogeneous nuclear reactor after a sudden change in the reactivity

SOURCE: Gliwice. Politechnika Śląska. Zeszyty naukowe. no. 58. 1962. Energetyka. no. 9. 89-105

TEXT: A theoretical analysis is reported of the change in the thermal power and neutron flux following a sudden change in the reactivity. The unequal rise in the fuel and moderator (coolant) temperature is taken into account. Formulae are derived for the reactivity vapour factor. This analysis can be used to determine safe reactivity and the power level which is reached after the sudden increase in the reactivity. The theoretical results have been used to estimate the uncontrolled power change for the experimental reactor "Helena". It is found that the formulae now reported are suitable for safe reactivity calculations.

There are 2 figures and 1 table.

ASSOCIATION: Katedra Energetyki Ciepłej
Card 1/1 (Department of Heat Engineering)

SUBMITTED: February 12, 1962

KOSTOWSKI, Edward, mgr ins.

Application of exergy in refrigeration engineering. Energetyka
przem 10 no.11:393-399 N '62.

1. Katedra Energetyki Ciepłej, Politechnika Śląska, Gliwice.

KOSTOWSKI, Wojciech; MAJCHERCZYK, Janina; SZYMANSKA, Janina

Studies on the action of new derivatives of bis-pyridylmethyamines on the cardiovascular system. I. Acta physiol. Pol. 16 no.2:297-302
Mr-Ap'65.

1. Zakład Farmakologii Eksperymentalnej Akademii Medycznej w Warszawie. (Kierownik: prof. dr. P. Kubikowski).

KOSTOWSKI, Wojciech

Studies on the effect of acetylcholine and serotonin on
ganglionic conduction in the leech (*Hirudo medicinalis*).
Acta physiol. Pol. 16 no.3:457-463 My-Je ' 65.

1. Zakład Farmakologii Doświadczalnej AM w Warszawie
(Kierownik: prof. dr. P. Kubikowski).

KARWOWSKA-STAUER, Ludwika; KOSTOWSKI, Wojciech

Attempted clinical determination of ADH in urine with the use of a modified biological test on *Rana esculenta*. Endokr. pol. 13 no.6: 655-664 '62.

1. III Klinika Chorob Wewnętrznych AM w Warszawie Kierownik: prof. dr E. Kodejszko.

(VASOPRESSIN)

POLAND

HINTZ, Regina and KOSTOWSKI, Wojciech, Third Clinic of Internal Diseases (III Klinika Chorob Wewnetrznych), AM [Akademia Medyczna, Medical Academy] in Warsaw (Director: Prof. Dr. med. E. KODEJSZKO)

"Melanostimulating Hormone (MSH) and Adrenocorticotropic Hormone (ACTH) as Main Factors Affecting Skin Color."

Warsaw, Polski Tygodnik Lekarski, Vol 18, No 26, 24 Jun 63, pp 953-955.

Abstract: Review article concerning factors affecting the pigmentation of the skin, starting with the effect of removing the hypophysis of the tadpole by Smith and Allen in 1916, the discovery of MSH and ACTH, the varying views concerning their identities, the recent electrophoretic separation of their various fractions, and similarities and differences found. He then reviews the various methods developed for studying extracts and determination of the hormone in the blood and body fluids, and discusses the clinical significance of the studies to date. He concludes with a mention of other melano stimulating and inhibiting substances. 41 refs: 1 Soviet, mostly West.
1/1

L 62755-65

ACCESSION NR: AP5018226

PO/0056/65/016/003/0457/0463

AUTHOR: Kostowski, W. (Kostovski, V.)

TITLE: Studies on the effect of acetylcholine and serotonin on ganglionic conduction in the leech (*Hirudo medicinalis*)

SOURCE: Acta physiologica polonica, v. 16, no. 3, 1965, 457-463

TOPIC TAGS: acetylcholine, serotonin, ganglionic conduction, nerve transmission, nervous system, neurohormone

ABSTRACT: The effect of acetylcholine and serotonin (10^{-3} - 10^{-6} g/ml) on the magnitude of the potentials elicited by electrical stimulation of the segmental ganglia was studied in 15 leeches about 5-7 cm in length. After removal of the head, a lateral incision was made and the distal part of the nervous system was removed. The experiments were performed on ganglia 4-5 which were first flushed with a physiological solution and then stimulated with a rectangular voltage (3-5 V) at 1 cycle/sec., the pulses lasting 0.35 msec. In some of the experiments, LSD 25 (10^{-3} g/ml), atropine (10^{-3} g/ml) and pendiomid (10^{-3} g/ml) were also tested. The results of these tests showed that the values of the retroganglionic potential increased after acetylcholine by 69.5 and 100% for the 10^{-6} and 10^{-3} g/ml concentrations, respectively. With serotonin, the increases were 72 and

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L 62755-65

ACCESSION NR: AP5018226

80%, respectively. Atropine produced a drop in the potential while LSD 25 counteracted the effect of serotonin on the ganglion. The author concludes that serotonin may play a role in the transmission of impulses in the inhibitory portion of the nervous system of leeches. Orig. art. has: 6 figures.

ASSOCIATION: Zaklad Farmakologii Doswiadczalnej AM, Warsaw (Institute of Experimental Pharmacology, AM)

SUBMITTED: 25Jun64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 016

llc
Card 2/2

KOSTOY, Ivan

Hydrogen sulfide in the Black Sea. Priroda Bulg 13 no. 2:
3-6 Mr-Apr '64.

1. Corresponding Member of the Bulgarian Academy of Sciences.

KOSTOYANTS, Kh. S.

Nervous System

Protein substances, metabolism, and
regulations of neural function. Trudy
Inst. morf. zhiv. No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 195²₃, Uncl.

EXCERPTA MEDICA Sec. 7 Vol. 9/9 Sept. 55

KOSTRA M.

1945. KOSTRA M. Ústredné Odd. KÚNZ v Žiline. Askariáza v röntgenovom obra-
ze. Ascariasis in X-ray picture. Report on 2 cases in
children PEDIAT. LISTY 1954, 9/6 (348-349)

In a girl, aged 13 years, who was suspected of acute gastritis or cholecystopathy,
the typical picture of ascariasis was shown by X-rays: there was no contrast
substance in the jejunum, but in the centre of this open space there was a contrast
caused by barium in the gastrointestinal tract of the worm. The removal of the
worm after santonine was observed roentgenologically. After this drug, barium
was no longer seen in the intestinal tract of the worm. A boy, aged 11 years, with
subileus, appeared to have a cluster of ascarides in an intestinal loop dilated by
gas.

Bloch - Doetinchem (XX, 7, 14)

1950.
The a
childr
1951.

KOSTRAK, M.A., kandidat meditsinskikh nauk

Treatment of tuberculous polyserositis in adults with chemotherapeutic preparations. Probl.tub. 34 no.6 supplement:40-41 N-D '56.
(MLRA 10:2)

1. Iz Ukrainkogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. A.S.Mamolot, zam. direktora po nauchnoy chasti - prof. M.A. Klebanov)

(TUBERCULOSIS, therapy,
serous membranes, drug ther. (Rus))

8(0)

SOV/112-59-2-2933

Translation from: Referativnyy zhurnal Elektrotehnika. 1959. Nr 2. p 96 (USSR)

AUTHOR: Kostrauskas, P , and Baskutis, P.

TITLE: Some Properties of Gorev-Park Equations for the Synchronous Machine
(O nekotorykh svoystvakh uravneniy Goreva-Parka dlya sinkhronnoy mashiny)

PERIODICAL: Tr. Kaunassk politekhn. in-ta. 1957. Vol 7. pp 75-84 (summary in Lithuanian);

ABSTRACT: Stability of operation of a synchronous motor is considered. On the basis of Gorev-Park equations a set of linearized small-deviation equations is derived; the indicial equation of the linearized system is analyzed for the case of a motor without amortisseur windings on its rotor. It is pointed out that in this case the indicial equation has one real and two pairs of complex roots: (1) the real root is proportional to the energy dissipation factor of the field circuit r/X_f where r and X_f are resistance and inductance of the field windings; (2) the complex roots are explicitly independent of r/X_f ; (3) one

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SOV/112-59-2-2933

Some Properties of Gorev-Park Equations for the Synchronous Machine pair of the complex roots contains the factor $1/\sqrt{H}$, where H is the rotor inertial constant; the second pair of complex roots is independent of H. Based on these properties, approximate expressions are obtained for all complex roots, and the conclusion is drawn that the locus of the motor stable operation is practically independent of r/X_r or H. Bibliography: 2 items.

I.M.S.

Card 2/2

L 30433-65 EMT(1)/EPA(s)-2
ACCESSION NR: AT5004071

S/3131/63/000/002/0213/0220

AUTHOR: Kostrasuskas, P.

TITLE: Effect of the slot skew angle on the amount of materials required for electric micromachines *M*

SOURCE: Nauchnyye trudy vysshikh uchebnykh zavedeniy Litovskoy SSR: Elektrotehnika i mekhanika, no. 2, 1963, 213-220

TOPIC TAGS: micromachine, electric micromachine

ABSTRACT: The per-kw amount of active materials in modern micromachines may reach a very high (500 kg/kw) value, and the skew-slot stator and rotor design is largely responsible for it. The skew design has been used (a) to suppress higher space flux-density harmonics and (b) to reduce noise, to improve the starting torque, and to suppress tooth harmonics. Formulas are developed which compare the skew-slot and straight-slot designs of a single-phase

Card 1/2

L 36433-65

ACCESSION NR: AT5004071

squirrel-cage induction motor with salient stator poles; such motors may have very large (up to 30°) skew angles. The formulas (10), (16), and (17) show that much extra material is required if the skew angle is large. Hence, it is recommended that the skew angle be selected only to meet the above requirements (b). The requirement (a) should be satisfied by beveling pole tips, providing a nonuniform airgap, and other devices. Orig. art. has: 6 figures, 34 formulas, and 1 table.

ASSOCIATION: Kaunasskiy politekhnicheskii institut (Kaunas Polytechnic Institute)

SUBMITTED: 31Jan62

ENCL: 00

SUB CODE: DP, EE

NO REF SOV: 001

OTHER: 001

Card 2/2

KOSTRAUSKAS, P.I., Cand Tech Sci -- (diss) "Study of the
effect of certain ~~factors~~^{factors up} on the stability of operation
of a low-powered synchronous machine." Kaunas, 1958, 12 pp
(Min of Higher Education USSR. Kaunas Polytechnic Inst)
130 copies (KL, 23-58, 106)

- 65 -

KOSTRAVENKO, A.

Moving-picture Projection

Why are they ahead. Kinomekhanik no. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

KOSTRBA, Vaclav, inz.

Elaboration of the plan of long-term development of building element prefabrication. Stav vyzkum no.4:4-7 S '62.

1. Vyzkumny ustav stavebni vyroby, Praha.

KOSTRENCIC, M

Yugoslavia (430)

General - Serials

The Code of Stefan Dusan as a mirror of its time. p. 345. Srpska akademija nauka. GLASNIK. Beograd. (Quarterly bulletin containing abstracts of transactions and proceedings of the Serbian Academy of Sciences.) Vol. 1, no. 3, 1949.

East European Accessions List. Library of Congress, Vol.1, no 13, November 1952.

UNCLASSIFIED

KOSTRENKO, N.F.
KONNOV, K.M.; KOSTRENKO, N.F.

At the "Svetefer" Plant. Avtom., telem. i sviaz' 2 no.11:37-39
'58. (MIRA 11:12)

1. Nachal'nik elektrotekhnicheskogo saveda "Svetefer" (for Konnov).
2. Nachal'nik tekhnicheskogo otdela saveda "Svetefer" (for K_ostrenko).
(Dnieper Valley--Factories)
(Railroads--Equipment and supplies)

KOSTRETSOV, V.N.

The APCh-10 unit for the production of starch. Biol.tekhn.-ekon.
inform. no.12:39-40 '60. (MIRA 13:12)
(Starch industry)

AL'BOV, S.V.; KOSTRIK, I.V.

Some new data on the mineral waters of the Crimea. Vop. kur.
fizioter. i lech. fiz. kul't. 25 no. 5:469-470 S-0 '60.
(MIRA 13:10)
(CRIMEA--MINERAL WATERS)

KOSTRICHKIN, Nikolay Andreyevich, Geroy Sotsialisticheskogo Truda, brigadir
(1904-); MASHKINA, A., red.; PAVLOVA, S., tekhn. red.

[Two ears instead of one] Dva kolosa vmesto odnogo. Moskva,
Mosk. rabochii, 1962. 18 p. (MIRA 15:8)

1. Plevodcheskaya brigada kolkhoza "Borets" Ramenskogo rayona
(for Kostrichkin).

(Rybolovo--Agriculture)

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/2 PG - 126
 AUTHOR KOSTRIKIN A.I.
 TITLE Solution of the restricted Burnside problem for the exponent 5.
 PERIODICAL Izvestija Akad. Nauk 19, 233-244 (1955)
 reviewed 7/1956.

The author proves that the restricted Burnside problem for two generators and the exponent 5 has an affirmative solution: Let F be the maximal periodic group of period $p = 5$ with two generators (that is, the factor group of the free group on two generators with respect to the "identical relation" $x^5 = 1$) and F_i the i -th term of the lower central series of F . Put $f_\omega = \bigcap_{i=1}^{\infty} F_i$. Then the Burnside group $F_\omega = F/f_\omega$ is finite, its class is 12 or 13 and its order is 5^{33} or 5^{34} . The method of proof is an extension of that used by Sanov (Izvestija Akad. Nauk 16, 23-58 (1952)) to obtain lower estimations for the length of the lower central series of F . Sanov had calculated the factor groups F_i/F_{i+1} for $i \leq 8$. The present author continues the calculation of Lie polynomials with coefficients in the Galois field $\mathbb{GF}(5)$ of higher degrees, modulo the preceding ones and finds after heavy computational work that the module L_{13} of homogeneous Lie polynomials of degree 13 modulo those of degree 12 is trivial. This then shows that F_{13}/F_{14} and all the subsequent

Kostrikin, A.I.

44-1-218D

TRANSLATION FROM: Referativnyy zhurnal, Matematika, 1957,
Nr 1, p 31. (USSR)

AUTHOR: Kostrikin, A.I.

TITLE: Nilpotent Groups and Lie Rings (Nil'potentnyye
gruppy i kol'tsa Li)

ABSTRACT: Bibliographic entry on the author's dissertation
for the degree of Candidate of Physical-Mathematical
Sciences, presented to the Mathematical Institute
of the AS USSR (Matem. in-t AN SSSR), Moscow, 1956

ASSOCIATION: Mathematical Institute of the AS USSR (Matem.
in-t AN SSSR)

Card 1/1

KOSTRIKIN, A.I.

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/1 PG - 986
 AUTHOR KOSTRIKIN A.I.:
 TITLE On Lie Rings satisfying the Engel condition.
 PERIODICAL Doklady Akad.Nauk 108, 580-582 (1956)
 reviewed 7/1957

In an earlier paper (Izvestija Akad.Nauk 19, 233 (1955)) the author has shown that the restricted Burnside group $B_{2,5}$ is finite. In the present paper he extends this result to the case $B_{k,5}$ of an arbitrary finite number k of generators. This has also been proved by G.Higman (Proc.Cambridge Phil. Soc. 52, 381-390 (1956)) using very similar methods. The above result appears as an immediate corollary to the theorem that a Lie ring of characteristic p satisfying the Engel condition $(uv^p)^n = 0$ with $p > n$ is locally nilpotent, when $n = 4$. The author also proves local nilpotence for $n = 5$.

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825220017-4

AUTHOR KOSTRIKIN A.I. 38-3-1/7
 TITLE On the Relation Between Periodic Groups and Lie Rings.
 (O svyazi mezhdu periodicheskimi gruppami i kol'tsami LI - Russian)
 PERIODICAL Izvestia Akad.Nauk SSSR, Ser.Mat.,1957, Vol 21, Nr 3, pp 289-310(U.S.S.R.)

ABSTRACT The present work investigates the equivalence of the reduced BURNSIDE problem for the index p with the problem of local nil-potency of a Lie ring with the characteristic p which satisfies the $(p-1)$ -ENGEL-condition. For this purpose the relation between two ideals must be fully explained. The first chapter supplies estimations of upper limitations of the order of certain modules. The first theorem says the following- the deduction is symmetric in relation to all components of its argument. The second chapter obtains first a theorem on the relation between the ideals A and I . Let $\bar{\mathcal{L}}$ denote a free whole-numbered Lie ring with a generatrices and $\bar{\mathcal{L}} = \mathcal{L}/A$ a Lie ring which is to be compared with the group $B_{q,p}$. The inclusion $A \subset p\mathcal{L} + I \cap \mathcal{L}$ then applies. Here I' denotes the rational shell of the ideal I' , which is formed by all elements of the form $[uv^{p-1}]$, $u, v \in \mathcal{L}$. Another theorem maintains the following- $A_n = I_n$ for $n = 2p - 1, 2p$. These theorems are here proved step by step; The last chapter discusses the use of the results achieved. Amongst others the following theorem is obtained: there exists a finite group with the identical relation $x^p = 1$. This group is formed by two producing terms and has the class of the nil-potency $m = 2p(p > 5)$
 (With 1 table).

KOSTRIKIN, A.I.

AUTHOR: KOSTRIKIN, A.I. 38-4-4/10

TITLE: Lie Rings Which Satisfy the Engel Condition (Kol'tsa Li, udovletvoryayushchiye usloviyu Engelya).

PERIODICAL: Izvestiya Akad.Nauk Ser.Mat., 1957, Vol.21, Nr 4, pp.515-540(USSR)

ABSTRACT: As the radical $N(L)$ of a Lie ring L with characteristic $p \geq 0$ the sum of all of its locally nilpotent ideals is denoted. If L satisfies the n -th condition of Engel, where $n < p$ for $p \neq 0$ and n arbitrary for $p = 0$, then $N(L)$ possesses all the properties of Levitzki's radical (Bull. Amer.Math.Soc. 49, 461-466, 1943) in general associative rings. With the aid of this radical the author proves the local nilpotency of the Lie rings satisfying the n -th Engel condition with the characteristic $p \geq 0$ in the following cases: 1) $n=4$, $p \geq 5$; 2) $n=5$, $p > 5$; $n=6$, $p \geq 7$. From these results in particular the positive solution of the weak Burnside problem follows for the exponents 5 and 7. The results of the present paper are partially obtained in the author's thesis and essentially have been already announced without proofs (Doklady Akad.Nauk 108, 580-582, 1956).

CARD 1/1
PRESENTED: By I.M. Vinogradov, Academician
SUBMITTED: July 14, 1956
AVAILABLE: Library of Congress

KOSTRIKIN, A. I.

AUTHOR: KOSTRIKIN, A. I., SHAFAREVICH, I. R.

20-6-4/48

TITLE: Homology Groups of Nilpotent Algebras (Gruppy gomologii nil'potentnykh algebr).

PERIODICAL: Doklady Akad. Nauk. SSSR, 1957, Vol. 115, Nr. 6, pp. 1066-1069 (USSR)

ABSTRACT: The authors consider the upper homology groups $H^n(N, k)$, where N is a nilpotent associative algebra of finite rank over an arbitrary field k . Let the dimension of the vector space $H^n(N, k)$ be b_n and it is called the n -dimensional Betti's number of N .

Theorem: Let $N = N_1 + \dots + N_m$ be a direct sum of m nilpotent algebras; $R_N(t) \equiv \sum_{n=0}^{\infty} b_n t^n = R(t)$, $R_{N_i}(t) = R_i(t)$ the corresponding Poincare's functions. Let

$$\frac{1}{R(t)} - 1 = \sum_{i=1}^m \left(\frac{1}{R_i(t)} - 1 \right).$$

Theorem: We have

$$b_n - b_{n-1} + \dots + (-1)^n b_0 \geq \frac{1 + (-1)^n}{2}, \quad n=1, 2, \dots$$

Card 1/2

Theorem: The Betti's numbers of a nilpotent algebra and a finite

Homology Groups of Nilpotent Algebras

20-6-4/48

p -group are positive.

Theorem: If all Betti's numbers of a nilpotent algebra H are bounded in their totality over a finite field k , then $R_H(t)$ is a rational function. (Conjecture: for every nilpotent algebra of finite rank the $R_H(t)$ are rational functions of t).

Some further similar results and one example for the existence of infinitely many algebras with bounded Betti's numbers are given.

ASSOCIATION: Mathematical Inst. in V.A. Steklov, AN USSR (Matematicheskiy institut im. V.A. Steklova AN SSSR)

SUBMITTED: March 21, 1957

AVAILABLE: Library of Congress

Card 2/2

KOSTRIKIN, A. I.: Doc Phys-Math Sci (diss) -- "On Bernsoid's problem". Moscow, 1958, published by the Acad Sci USSR. 6 pp (Acad Sci USSR, Math Inst im V. A. Steklov), 185 copies (KL, No 4, 1959, 121)

AUTHOR: Kostrikin, A.I. (Moscow) SOV/42-13-3-37/41
 TITLE: On Local Nilpotence of Lie Rings With Engel Condition (O lokal'noy nil'potentnosti kolets Li s usloviyem Engelya)
 PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 3, p 246 (USSR)
 ABSTRACT: Theorem: An arbitrary Lie ring L which satisfies the n-th condition of Engel ($[uv^n] = [\dots [[uv]v]\dots v] = 0$, $u, v \in L$) and has the characteristic 0 or $p > n + \lfloor \frac{n}{2} \rfloor$, is locally nilpotent.

The proof bases on the lemmas:

Lemma: Let $N(L)$ be the sum of locally nilpotent ideals (radical) of the Lie ring L with n-th Engel condition and with the characteristic $p = 0$ or $p > n$. If in L there exists an element $c \neq 0$ such that $[[uc]c] = 0$ for all $u \in L$, then $N(L) \neq 0$.

Lemma: If L satisfies the assumptions of the above theorem, then there holds the identity

$$[w [uv^{n-1}]^2] = 0.$$

Card 1/1

AUTHOR: Kostrikin, A.I.

20-118-6-6/43

TITLE: On Local Nilpotentness of the Lie-Rings Satisfying the Condition of Engel (O lokal'noy nil'potentnosti kolets Li, udovletvoryayushchikh usloviyu Engelya)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 118, Nr 6, pp 1074-1077 (USSR)

ABSTRACT: The author proves the theorem:
An arbitrary Lie-ring satisfying the n-th condition of Engel

$$[uv^n] = [\dots [[uv] v] \dots v] = 0$$

and having the characteristic zero or $p > n + \lfloor \frac{n}{2} \rfloor$, $p < \infty$, is locally nilpotent.

The proof bases on three lemmas:

1. Let $c_{(m)}$ denote an element different from zero of a Lie-ring for which

$$c_{(m)} u^\alpha c_{(m)} = 0, \quad \alpha = 0, 1, 2, \dots, 2m-1 \quad (m \geq 1).$$

From the existence of the element $c_{(2)}$ in the Lie-ring with a satisfied n-th Engel condition and characteristic $p > n$ (or $p = 0$) there follows its local nilpotentness.

Card 1/2

On Local Nilpotentness of the Lie-Rings Satisfying the
Condition of Engel

20-118-6-6/43

2. A Lie-ring L with the characteristic p which is generated by the generators $x_i, x_i^2 = 0$ ($i=0,1,\dots,d$; d - arbitrary) and which satisfies the n -th condition of Engel, where $n < p$, is nilpotent.
3. If $u, v \in L$ and $p > n + \left\lfloor \frac{n}{2} \right\rfloor$ or $p = 0$, then there holds

$$[uv^{n-1}]^2 = 0.$$

There is 1 Soviet reference.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova Akad. Nauk SSSR
(Mathematical Institute imeni V.A. Steklov, Academy of Sciences
USSR)

PRESENTED: September 16, 1957, by I.M. Vinogradov, Academician

SUBMITTED: September 12, 1957

Card 2/2

AUTHOR: Kostrikin, A.I. 20-119-6-6/56

TITLE: On the Problem of Burnside (K probleme Bernsayda)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 119, Nr 6, pp1081-1084 (USSR)

ABSTRACT: The author succeeds in obtaining a positive solution of the weak Burnside problem for all prime exponents p . Here the author uses the connection between periodic groups and Lie rings and so the fact that the weakened problem of Burnside with the exponent p (prime number) is a special case of the following problem from the theory of the Lie rings: Is the Lie ring of the characteristic p nilpotent, if it possesses a finite number of generators and if it satisfies the n -th condition of Engel ($n < p$) ?

The main result of the present paper is the following positive answer on this question:

Principal theorem: An arbitrary Lie ring L which satisfies the n -th condition of Engel and which has a characteristic $p \gg n$ (or $p=0$), is locally nilpotent.

The investigation of the author is closely connected with his former papers [Ref 2,3,4,6].

There are 6 references, 5 of which are Soviet, and 1 English.

Card 1/2

16(1)

AUTHOR: Kostrikin, A.I.

SOV/38-23-1-1/6

TITLE: On the Problem of Burnside (0 probleme Bernsayda)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959, Vol 23, Nr 1, pp 3-34 (USSR)

ABSTRACT: The paper contains the detailed proofs for the announcements [Ref 3] and [Ref 4] of the author.
Principal result: An arbitrary Lie ring satisfying the n-th condition of Engel and the characteristic of which is $p \geq n$ or $p = 0$, is locally nilpotent.
Conclusion: among the finite groups with k generators and the relation of identity $x^p = 1$, where p is prime, there exists one group of finite order depending only on k and p.
There are 4 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova AN SSSR
(Mathematical Institute imeni V.A. Steklov, AS USSR)

PRESENTED: by I.M. Vinogradov, Academician

SUBMITTED: April 21, 1958

Card 1/1

KOSTRIKIN, A.I.

Engel properties of groups with the identical relation $x^m = 1$.
Dokl. AN SSSR 135 no.3:524-526 N '60. (MIRA 13:12)

1. Matematicheskiy institut im. V.A. Steklova Akademii nauk SSSR.
Predstavleno akad. A.I. Mal'tsevym.
(Groups, Theory of)

KOSTRIKIN, A.I.

Prime Lie \mathfrak{p} -algebras. Trudy Mat.inst. 64:79-89 '61. (MIRA 15:3)
(Lie algebras)

KOSTRIKIN, Aleksey I

"Lie algebras and finite groups"

To be presented at the IMU International Congress of
Mathematicians 1962 - Stockholm, Sweden, 15-22 Aug 62

Mathematical Insti. imeni V. A. Steklov, Academy of
Sci. USSR (1960 position)

KREKNIN, V.A.; KOSTRIKIN, A.I.

Lie algebras with regular automorphisms. Dokl. AN SSSR 149
no.2:249-251 Mr '63. (MIRA 16:3)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno
akademikom P.S.Novikovym.

(Lie algebras)

KOSTRIKIN, A.I.

Strong degeneracy of simple Lie p -algebras. Dokl. AN SSSR 150
no.2:248-250 My '63. (MIRA 16:5)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno
akademikom I.M.Vinogradovym.

(Lie, Algebras)

KOSTRIKIN, A.I., doktor fiz.-matem.nauk

Seventh Congress of the National Association of Italian
Mathematicians. Vest. AN SSSR 34 no. 1:78 Ja '64.

(MIRA 17:5)

KOSTRIKIN, A.I.

Homogeneous algebras. Izv. AN SSSR. Ser. mat. 29 no.2:471-484 '65.
(MIRA 18:5)

1. Matematicheskiy institut imeni Steklova AN SSSR.

KOSTRIKIN, A.I.

Height of simple Lie algebras. Dokl. AN SSSR 162 no.5:992-994 Je '65.
(MIRA 18:7)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Submitted
December 10, 1964.

KOSTRIKIN, A.I.

Representation of groups by generating and determining relations.
Izv. AN SSSR, Ser. mat. 29 no.5:1119-1122 '65. (MIRA 18:10)

ACC NR: AP7007071

SOURCE CODE: UR/0020/66/168/004/0740/0742

AUTHOR: Kostrikin, A. I. ; Shafarevich, I.R. (Corresponding member AN SSSR)

ORG: Mathematics Institute im. V. A. Steklov, AN SSSR (Matematicheskii institut AN SSSR)

TITLE: Pseudo-groups of Cartan and the P-Algebra of Lie

SOURCE: AN SSSR. Doklady, v. 168, no. 4, 1966, 740-742

TOPIC TAGS: algebra, mathematics

SUB CODE: 12

ABSTRACT: After briefly describing Lie algebras, the authors analyze some analogs of Cartan algebra over an algebraically closed field K of characteristics $P > 0$. The authors indicate that Cartan-type algebras, together with the classical algebras, exhaust all simple P -algebras of Lie ($P > 5$). They also hypothesize that if a simple Lie P -algebra ($P > 5$) contains no invariant sub-algebra, then is a classical-type algebra.

Orig. art. has: 1 formula. [JPRS: 38,417]

Card 1/1

INC: 510.46-510.4A

L 7649-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)/ETC(m) WW

ACC NR: AP5025055

SOURCE CODE: UR/0286/65/000/016/0096/0096

AUTHORS: Kostrikin, M. S.; Natalyuk, M. F.

ORG: none

43
B

TITLE: Device for measuring temperature. ^{9M} Class 42, No. 173985

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 96

TOPIC TAGS: temperature measurement, thermocouple 14

ABSTRACT: This Author Certificate presents a device for measuring temperature. The apparatus contains operating thermocouples connected to connecting boxes and a compensation thermocouple whose hot junction is fastened to the block of an electronic potentiometer. To simplify the device, the cold junction of the compensation thermocouple is fastened in series by a compensation lead to each of the connecting boxes (see Fig. 1).

Card 1/2

UDC: 536.532

5(2)

SOV/78-4-1-5/48

AUTHORS: Myuller, R. L., Kostrikin, V. M.

TITLE: The First Attempt at Investigating the Chemical Kinetics of Ruthenium Distillation (Pervyy opyt izucheniya khimicheskoy kinetiki otgonki ruteniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 23-27 (USSR)

ABSTRACT: The kinetics of the distillation process of ruthenium during oxidation by sodium chlorate was investigated. The initial solution of ruthenium was produced by chlorinating the metallic alloy. The distillation was carried out in the air current at a rate of 1.7 l/min. The distillation of ruthenium depends considerably on the concentration of sodium chlorate. If the sodium chlorate content is raised by 7 to 8 times, the distillation percentage of ruthenium rises by about 10000 times. On a rise of the acidity of the hydrochloric acid solution from 0.1 to 0.5 n distillation drops to 1/20. The dependence of the logarithm of the effective rate constant of ruthenium distillation on the logarithm of the initial concentration of sodium chlorate and the initial concentration of hydrochloric acid were investigated and are shown in figures 2 and 3. At room temperature

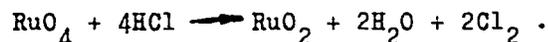
Card 1/3

SOV/78-4-1-5/48

The First Attempt of Investigating the Chemical Kinetics of Ruthenium Distillation

the rate of distillation rises by about 8% on 1° temperature rise. The effective activation heat lies at $26.5 \leq \Delta H \leq 52.5$ kcal/mol.

The rate of ruthenium distillation is approximately proportional to the sixth power of the initial concentration of sodium chlorate. With a hydrochloric concentration > 0.2 n the rate of ruthenium distillation is in the inverse proportion to the approximately fourth power of the initial solution of hydrochloric acid. The fourth power of the reaction with hydrochloric acid is probably caused by the reduction process of ruthenium:



The rate of ruthenium distillation from the solution rises with an increase of ruthenium tetroxide content, a decrease of hydrochloric acid concentration and an intensification of the air current. There are 3 figures and 4 tables.

Card 2/3

SOV/78-4-1-5/48

The First Attempt of Investigating the Chemical Kinetics of Ruthenium
Distillation

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: October 20, 1957

Card 3/3

KOSTRIKIN, V.M.

Germanium in asphaltites from the Urals. Min.syr'e no.7:185-187 '63.
(MIRA 16:9)

(Ural Mountains--Asphaltite)

KOSTRIKIN, V.M.; MELENT'YEV, B.N.; MEDVEDCHIKOV, E.P.; SOLYAKOV, S.P.

Extraction of soil acids from chlorine treatment sublimates of calcium
titanium niobates. Min.syr'se no.9:37-48 '63. (MIRA 17:10)

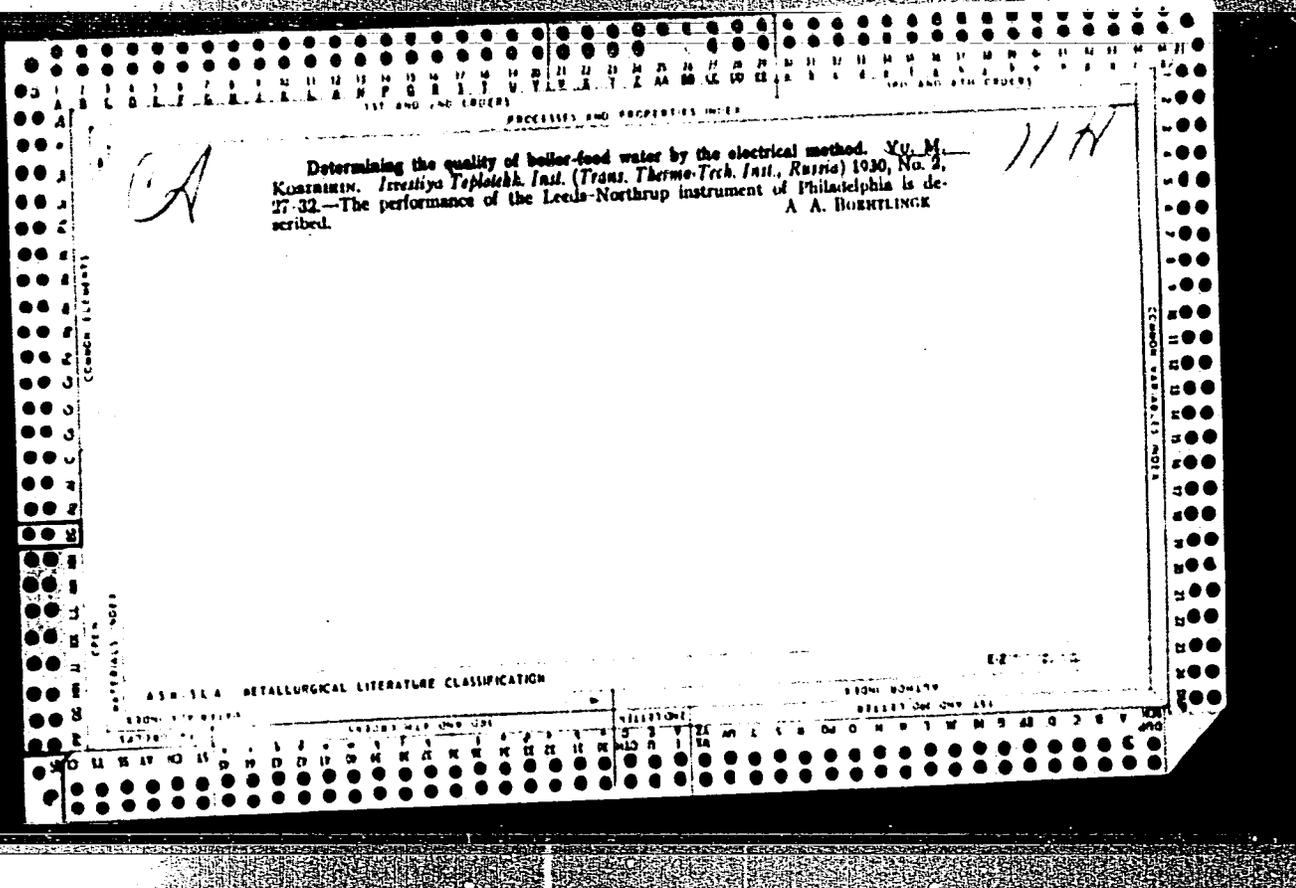
KOSTRIKOV, V.S.

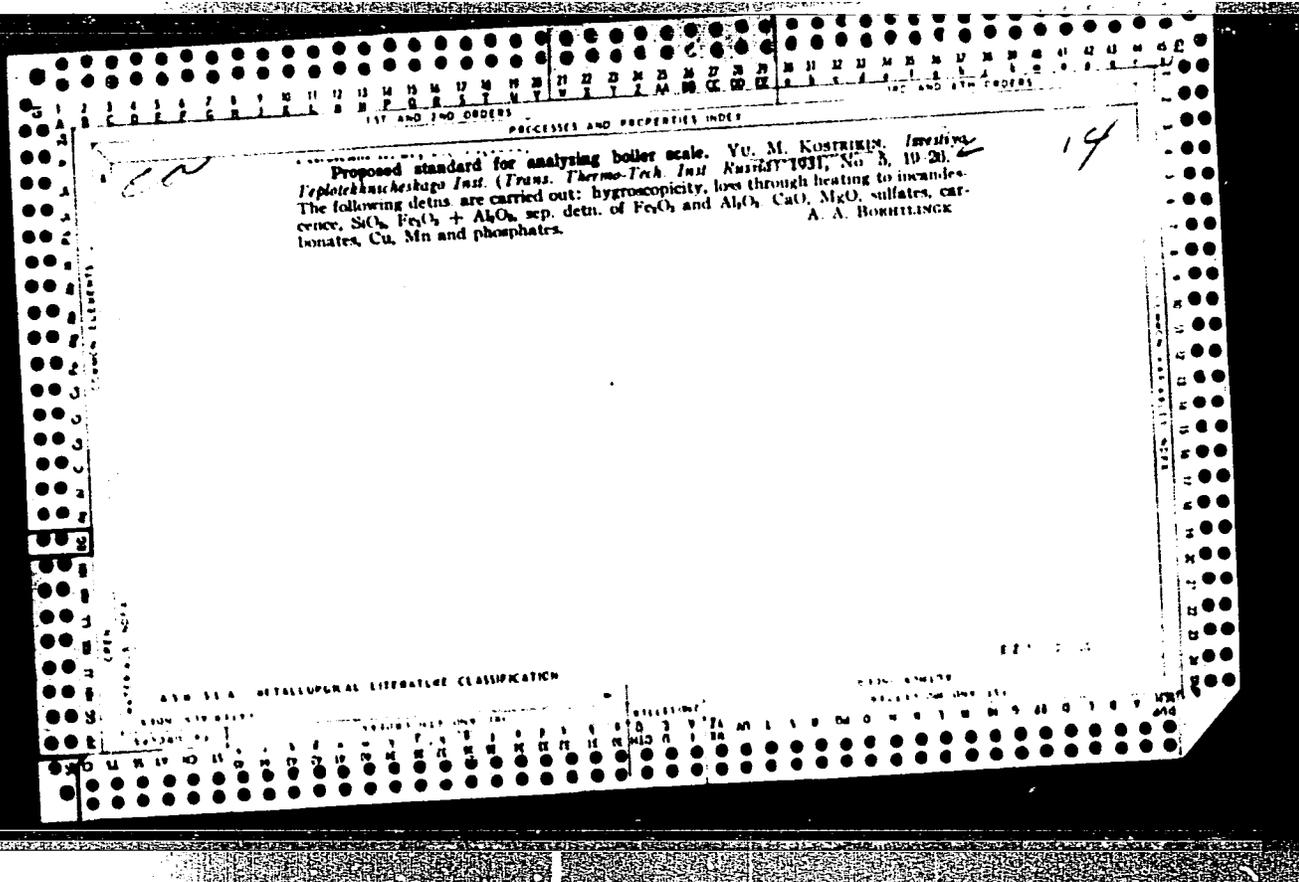
In memory of Viktor Isaakovich TSukerman; an obituary.
Ortop. travm. i protes. 26 no.6:94 Ja '65. (MIRA 18:8)

KOSTRIKIN, YA.

ORANSKIY, N., inzh.; KURBATOV, A., inzh.; KOSTRIKIN, Ya., inzh.

Collective farm work-shops for current repairs. Nauka i pered. op.
v sel'khoz. 8 no.5:11-12 My '58. (MIRA 11:5)
(Agricultural machinery--Maintenance and repair)





PROCESSES AND PROPERTIES INDEX

Graphical method for the reagents used in the soda-lime treatment of water.
 Yu. M. KOSTRIKIN. *Izvestiya Teplokhimicheskogo Inst. (Trans Thermo-Tech Inst. REPERATORT, No. 9, 28-9.*—Charts are constructed for carrying out the following reactions in feed water treatment: $\text{CaSO}_4 + \text{Na}_2\text{CO}_3 = \text{CaCO}_3 + \text{Na}_2\text{SO}_4$; $\text{MgCl}_2 + \text{Na}_2\text{CO}_3 = \text{MgCO}_3 + 2\text{NaCl}$; $\text{Ca}(\text{HCO}_3)_2 + \text{Ca}(\text{OH})_2 = 2\text{CaCO}_3 + 2\text{H}_2\text{O}$; $\text{Mg}(\text{HCO}_3)_2 + \text{Ca}(\text{OH})_2 = \text{CaCO}_3 + \text{MgCO}_3 + 2\text{H}_2\text{O}$; $\text{MgCO}_3 + \text{Ca}(\text{OH})_2 = \text{CaCO}_3 + \text{Mg}(\text{OH})_2$; $\text{CO}_2 + \text{Ca}(\text{OH})_2 = \text{CaCO}_3 + \text{H}_2\text{O}$. A few examples illustrating the use of the graphs are given.

A. A. BORSHTEIN

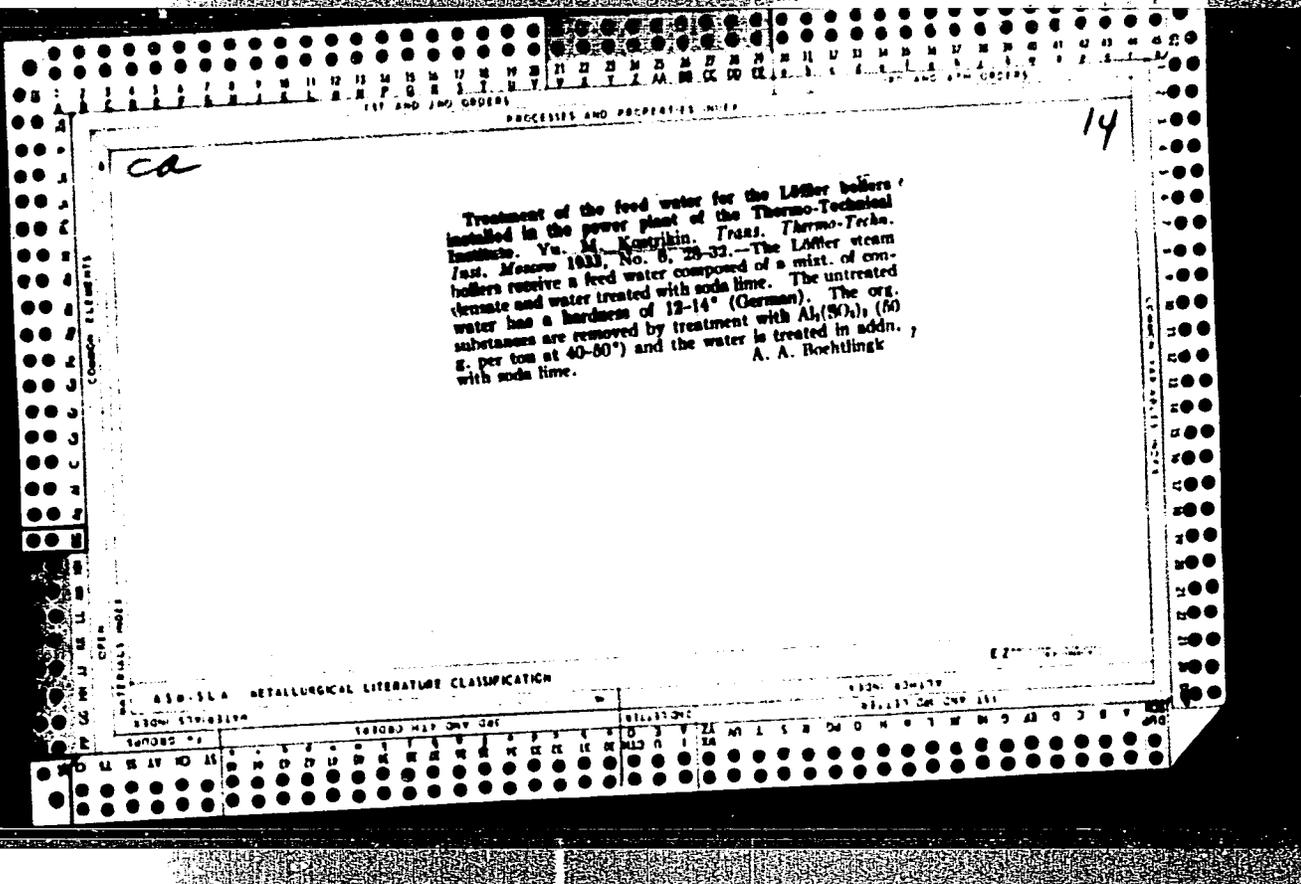
450-364 METALLURGICAL LITERATURE CLASSIFICATION

19

Influence of the duration of settling on the effect of treating water with soda lime.
YU. M. KOSTRIKIN. *Izvestiya Teploelektr. Inst.* 1931, No. 9, 48-53; cf. C. A. 25, 5721. --
Good effects can be obtained when treating boiler water in comparatively small vessels,
i. e., exposing it to reagents for a comparatively short period. Many expts were
carried out. A. A. BOKHTLINGER

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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CA 14

PROCESSES AND PROPERTIES INDEX

Lowering the residual hardness of the water during filtration. Yu. M. Kozirkin. *Izvestiya Teplokh. Inst.* 1933, No. 10, 44-45. Carried out with softening of water by the permittite method indicate that a preliminary treatment of the water with lime, which should be applied after treatment, produces a water which is more suitable for boiler feed water than water which has received only a permittite treatment. A. A. Bochtinsk

450.35.6 METALLURGICAL LITERATURE CLASSIFICATION

CA

14

Softening water with hydrogen-permutite. Yu. M. Kostjkin and F. R. Frukhorov. *Trans. Thermo-Tech. Inst. (Moscow)* 1934, No. 1, 41-4. --The disadvantages known to the permutite treatment of boiler water, namely the high alk. of the soln., can be reduced by replacing the Na ion with the H ion. The use of a 0.05 N HCl with permutite is illustrated and a few examples of treating boiler feed water of high hardness (in German degrees) are given. A. A. Doshlinsk.

230-31A METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

T

F 724. DETERMINATION OF SULPHATES IN NATURAL, BOILER, AND FEED WATERS BY MEANS OF SULPHOCOAL. Kostrikin, Yu. M. and Yankovskii, K. A. (Zavodskaya Lab., 1946, *IZ*, 623-624; *Chem. Abstr.*, 1948, *41*, 2512-2513).

Place approximately 20 g. of moistened sulphonated coal in a 50-ml. burette, slowly pour 50 ml. of 5% HCl to replace all cations by H, wash with distilled water until the filtrate is free of acid, filter the water sample through the layer thus prepared, collecting 50 ml. of the filtrate in approximately 5 min., transfer the first 50 ml. collected to an Erlenmeyer flask or a porcelain dish, and titrate the acid with 0.1 N. base in the presence of methyl orange. Repeat the procedure with the following 50-ml. portions of the sample. In the first 2 portions the acidity increases as the distilled water is washed out of the cation exchanger. Beginning with the 3rd portion of the filtrate, the acidity usually becomes stabilized. Discontinue the filtration after 2 successive samples the same acidity. H ions are exchanged for all cations originally present in the water. If hydroxides, carbonates, or bicarbonates are present

COMMON MATERIALS INDEX

METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND COPIES

in the water, a part of the H ions is used up for their neutralization. The residual acidity of natural waters is equivalent to their contents of Cl^- and SO_4^{--} , that of boiler water to contents of Cl , SO_4^{--} , PO_4^{--} , and very seldom NO_3^- . Determine Cl^- by the Mohr and Volhard method, NO_3^- and PO_4^{--} colorimetrically, and SO_4^{--} by difference.

PROCEDURE AND PROPERTY INDEX

M

F

3719. DIFFICULTIES IN CREATING SCALE-FREE CONDITIONS IN BOILERS WITH STEPWISE EVAPORATION. Kostrikin, Yu. M. (Izvent. V.T.I., 1946, 15, No. 11, 23-5; Chem. Abstr., 1947, 41, 4258).

Phosphate ion and silicate ion are effective in preventing boiler scale by precipitating Ca and Mg ions, respectively. Scale will form when SiO_2 precipitates Ca^{++} and PO_4 precipitates Mg^{++} . Based on the solubility products of the compounds which these 4 ions may form, an analysis is made to determine the conditions preventing boiler scale in the presence of all 4 ions. Such conditions are feasible, but only within narrow limits. At small salt concentrations it is impossible to create favourable conditions. Under such circumstances $Mg_3(PO_4)_2$ will precipitate first, forming scale. $Mg_3(PO_4)_2$ will also form when the concentration of SiO_2 is considerable. Generally the possibilities of establishing favourable conditions in boilers with stepwise evaporation are quite limited.

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
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14

Analysis of boiler water for its content of silicic acid and excess phosphates. Yu. M. Kustrikina and B. G. Kochneva. *Izv. VTI* 13, No. 11, 25-31 (1946).--The purpose of phosphate ion in boiler water is to ppt. Ca as $3Ca_3(PO_4)_2 \cdot Ca(OH)_2$ (hydroxyapatite), which does not form boiler scale. Mg should be pptd. as $MgSiO_3$, in which form it does not deposit as scale. Since both phosphate and silicate ions are detd. conveniently as Mo complexes, it is essential to sep. them in analyses. In the outlined procedure advantage is taken of differences in the acidity at which the complexes are formed and at which they are stable. Thus phosphomolybdate is formed at 0.2-1.0 N H_2SO_4 , and the optimum H_2SO_4 concn. for its formation is 0.5-0.7 N. At this concn. the color produced by reducing phosphomolybdate with $SnCl_2$ is also stable. Above 1.2-1.5 N H_2SO_4 phosphomolybdate will give no color when reduced. The optimum H_2SO_4 concn. at which silicomolybdate is formed is 0.1-0.25 N. Once formed, it remains stable at 3-3.5 N H_2SO_4 and will develop the blue color when reduced. The procedure for detg. PO_4^{3-} is: Transfer a 10-ml. (or 50-ml. if the PO_4^{3-} concn. is small) sample to a 100-ml. volumetric flask. Add 10 ml. of 5.5 N H_2SO_4 , and 5 ml. of 5% NH_4 molybdate soln., mix, and dil. with H_2O . Add 10 drops of 1% $SnCl_2$ soln., bring to mark, mix thoroughly, and, after 2 min., det. color in colorimeter. To det. SiO_2 place a 10-40-ml. (depending on SiO_2 content) sample in a 100-ml. volumetric flask. Add 1 ml. of 10 N H_2SO_4 , and enough H_2O to make the total vol. 41 ml. and add 10 ml. of 5% NH_4 molybdate. The acidity of the soln. is now around 0.2 N H_2SO_4 . Mix and after 3 min. (the yellow silicomolybdate complex is formed) add 25 ml. of 10 N H_2SO_4 to destroy the phosphomolybdate complex if present. The acidity now is around 3.4 N H_2SO_4 . Mix, add 10 drops of 1% $SnCl_2$ soln., bring to vol. with H_2O , mix thoroughly, and det. in colorimeter after 5 min.

M. Hosch

KOSTRIKIN, YU. M.

PA 1/19715

USSR/Chemistry - Analysis
Chemistry - Sorption

Feb 48

"Various Methods of Utilizing Chemosorbents for Analytical Purposes," Yu. M. Kostrikin, Water Lab, All-Union Thermal Eng Inst, 3 pp

"Zavod" Lab Vol XIV, No 2

Outlines one method of analysis, in which liquid to be analyzed is filtered through column filled with sorbent. Criticizes Yu. Yu. Lur'ye's method.

4/19715

KOSTRIKIN, Yu. M.

58/49T16

USSR/Chemistry - Analytical Chemistry May 49

"The Problem of Devising New Methods of Chemical Analysis," Yu. M. Kostrikin, Cand Tech Sci, Chief, Water Lab, All-Union Thermotech Inst, 2 pp

"Zavod Lab" Vol. XV, No. 5

Claims that, in the process of devising new methods of chemical analysis, basic elements of the analytical process are frequently ignored, leading to development of erroneous methods. Stresses need for comprehensive checking of any new analytic method before it is adopted for use in industry.

58/49T16

KOSTRIKIN, Iu. M.

Iu. M. Kostrikin. Construction of a typical photocolorimeter. P. 1248

Chief of the Water Lab.
of the All Union
Thermotechnical Inst.

SO: Factory Laboratory, No. 10, 1950

KOSTRIKIN, YU. M.

Feed Water

Composition of boiler water. Rab. energ., 2,
No. 5, 1952

9. Monthly List of Russian Accessions, Library of Congress, August ²195~~3~~, Uncl.

KOSTRIKIN, YU. M.

USSR/Chemistry - Water Analysis

Mar 52

"On Methods for Determination of Oxygen," Yu. M.
Kostrikin, Cand Tech Sci, Water Lab

"Iz v-s Teplotekh Inst" No 3, pp 23, 24

Describes 2 iodometric methods for detn of oxygen dissolved in water: method of triple sampling developed by Ye. M. Yakimets and iodide-iodate method suggested by R. L. Babkin. Comparison shows certain advantages of 2d method.

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KOSTRIKIN, Yu. M.

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USSR/Engineering - Boilers, Feed Water May 52

"New Measuring Unit for Water Hardness," Yu. M. Kostrikin, Cand Tech Sci, Water Lab, VTI

"Iz v-s Teplotekhn Inst" No 5, pp 28,29

Defines new unit accepted for measuring water hardness instead of previously used German deg. Milligram-equivalent per liter (mgel/l) serves for measuring high hardness and microgram-equivalent (gekv/l) is used for low hardnesses. Discusses method and gives table for conversion

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of concn of various substances (ions) into new units. Suggests formula for detn of real excess of PO₄ in boiler water.

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KOSTRINKIN, YU, M.

USSR/Engineering - Boilers, Condensation

Nov 52

"Determination of the Inleakage of Cooling Water in Turbine Condensers,"
Cand Tech Sci Yu. M. Kostrikin, Water Lab

Iz V-S Teplotekh Inst, No 11, pp 27-28

Emphasizing importance of tightness of condensers for proper operation of high-pressure boilers, suggests method of detg cooling water inleakage which usually is not higher than 0.001-0.005. Suggests method for detn of inleakage by testing hardness of cooling water and condensate and more precise detn by consumption of phosphate for conditioning boiler feed water.

248T82

9. Monthly List of Russian Accessions, Library of Congress, _____ 1953, Uncl.

KOSTRIKIN, Yu. M.

Subject : USSR/Engineering AID - P-71
Card : 1/1
Author : Kostrikin, Yu. M., Kand. of Eng. Sci.
Title : Current Problems on Feed Water Treatment in Electric Power Plants
Periodical : Izv. V.T. I., v. 21, #3, 1-3, Mr 1952
Abstract : Solution of practical problems on water purification affecting the economy of the power plants is briefly outlined. Major attention is given to the presence of silicic acid, calcium phosphate, iron oxide, and organic substances in water and to chemical and mechanical purification. The work of engineers A. A. Kot, P. G. Prokhorov, P. A. Akol'zin, A. P. Mamet, V. V. Glushenko and others is mentioned. 3 Russian references (1949-50).
Institution : Feed Water Laboratory of the All-Union Heat Engineering Inst. im. F. E. Dzerzhinskiy (V.T.I.).
Submitted : January 11, 1952

KCSTRIKIN, YU. M.

Water - Analysis

New unit for measuring hardness.

Izv. VTI 21 No. 5 1952.

9. Monthly List of Russian Accessions, Library of Congress, October ² 195~~8~~, Uncl.

KOSTRIKIN, Yu.M.

[Manual of water, vapor and deposit (incrustation) analysis for
steam-boiler management] Instruktsiia po analizu vody, para, naki-
pi i otlosheni v teplosilovom khoziaistve. Moskva, Gosenergoizdat,
1953. 223 p. (MLRA 7:11D)

KOSTRIKIN, YU. M.

Feed - Water Purification

Measuring the excess of phosphates in feed water in new units. Elek. sta. 23 No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

ROBINSON, Ya. M.

Feed Water, Steam

Seeming dependence of the quality of steam on the salt contents of
feed water. Elek. sta., 23 No. 3, 1952
Kand. Tekhn. Nauk

SO: Monthly List of Russian Accessions, Library of Congress, July ²1952, Uncl.

KOSTRIKIN, Yu. M.

Steam

Causes of boiler steam contamination, Elek. sta. 24, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.